



**NATIONAL TRANSPORTATION SAFETY BOARD
OFFICE OF HIGHWAY SAFETY
WASHINGTON, D.C.**

**HUMAN PERFORMANCE GROUP CHAIRMAN'S
FACTUAL REPORT**

A. CRASH INFORMATION

Location: State Route 85 northbound, Saratoga, Santa Clara County, California
Vehicle 1: 2019 Tesla Model 3, private operator
Vehicle 2: 2015 Toyota Sienna, private operator
Vehicle 3: 2010 Toyota Tundra, private operator
Date: August 12, 2020
Time: 11:15 a.m. Pacific Daylight Time (PDT)
NTSB #: **HWY20IH008**

B. HUMAN PERFORMANCE FACTORS GROUP

Rafael Marshall, Human Performance Investigator, Group Chairman
NTSB Office of Highway Safety
490 L'Enfant Plaza East, S.W., Washington, DC 20594

C. CRASH SUMMARY

For a summary of the crash, refer to the *Crash Summary Report*, which can be found in the docket for this investigation.

D. DETAILS OF THE HUMAN PERFORMANCE INVESTIGATION

The Human Performance factual narrative focused on the driver of the 2019 Tesla Model 3 (Tesla driver) and the behavioral, medical, operational, and environmental factors that may have contributed to the crash.

1. Tesla Driver

1.1. Background and License History

The Tesla driver was a 75-year-old male. He held a valid state of California Class C noncommercial driver's license (DL) that expired in April 2025.¹ He was required to wear corrective lenses when driving, which one of his daughters stated he always wore.² His state of California Department of Motor Vehicle DL history showed no violations or suspensions.

Insurance records obtained through the Insurance Services Office (ISO) indicate that the Tesla driver was involved in a single vehicle crash in 2003.³ No other automobile insurance claims were listed since 2003.⁴

1.2. Activities Prior to the Crash

Investigators did not launch to the scene. Information was obtained about the driver's pre-crash activities from Santa Clara County Sheriff's Office (SCCSO) deputies, who briefly interviewed the driver's two daughters and shared the transcripts with the NTSB.⁵

According to one of the driver's daughters, who was a physician, her father had said that the Tesla was the fastest car he had ever owned.⁶ He had never mentioned any prior mechanical issues with the Tesla, and any service would have been done at the Tesla dealership since the vehicle was still under warranty. She reported her father also stated to her that he did not trust the Tesla autopilot feature and would not have used the feature while driving.

Another of the driver's daughters provided further information on the Tesla driver's activities prior to the crash. According to her statement to law enforcement, at 1:30 p.m. on August 11, 2020, the Tesla driver met her son at the Pruneridge Golf Course driving range. At about 3 p.m., the Tesla driver completed the golf session, at which time she picked up her son and her father drove back to his home. The next day, at 9:45 a.m. on August 12, 2020, she arrived at the Tesla driver's house to care for the dog while the Tesla driver took his spouse to a doctor's appointment. She stated that the Tesla driver arrived at the doctor's office about 10 a.m. and left there about 11 a.m.

NTSB investigators obtained the Tesla driver's cellular phone records from the carrier to determine possible sleep/wake times.⁷ Based on call and text activity times, the Tesla driver appeared to have had at least 8 hours of sleep opportunity on the two preceding days prior to the

¹ Tesla driver driving history information.

² Santa Clara County Sheriff's Office supplemental report #5.

³ The Insurance Services Office is a provider of statistical, actuarial, underwriting, and claims information and analytics; compliance and fraud identification tools; policy language; information about specific locations; and technical services.

⁴ Tesla driver ISO claims record.

⁵ The crash sequence involved in 2 separate crashes. The first was investigated by the California Highway Patrol and the subsequent one was investigated by Santa Clara County Sheriff's Office. In the first crash, the Tesla rear-ended a Toyota Sienna on State Route 85 (SR-85). In the second crash, the Tesla hit a Toyota Tundra on Saratoga Avenue.

⁶ During his lifetime, she estimated that he had owned 45 performance and luxury brand vehicles, including Porsche, Ferrari, and Aston Martin.

⁷ Tesla driver cellular phone records.

crash (See Table 1 and Figure 1). Table 1 includes times based on the statement from the driver's daughters, referred to as Next of Kin (NOK).

Table 1. Tesla driver's activities prior to the crash.

Time	Activity	Source
Monday, August 10, 2020		
7:03 AM	Outgoing text	Phone records
12:43 PM	Outgoing text	Phone records
2:27 PM	Outgoing text	Phone records
2:44 PM	Incoming call (2 min)	Phone records
5:33 PM	2 outgoing texts	Phone records
5:34 PM	4 outgoing texts	Phone records
6:23 PM	Outgoing call (3 min)	Phone records
6:30 PM	Outgoing call (1 min)	Phone records
6:31 PM	Incoming call (8 min)	Phone records
6:45 PM	Outgoing call (16 min)	Phone records
8:18 PM	Outgoing call (2 min)	Phone records
Tuesday, August 11, 2020		
10:15 AM	Outgoing text	Phone records
10:29 AM	Outgoing text	Phone records
11:02 AM	Outgoing text	Phone records
11:06 AM	Outgoing text	Phone records
11:47 AM	Outgoing text	Phone records
1:30 PM	Golf session with grandson	NOK statement
3:00 PM	Completed golf session	NOK statement
3:40 PM	Outgoing text	Phone records
6:50 PM	Outgoing call (1 min)	Phone records
7:30 PM	Outgoing text	Phone records
7:53 PM	Outgoing text	Phone records
7:54 PM	Outgoing call (4 min)	Phone records
8:20 PM	Outgoing text	Phone records
8:28 PM	Outgoing call (3 min)	Phone records
8:31 PM	Incoming call (0 min)	Phone records
8:33 PM	Outgoing call (11 min)	Phone records
8:56 PM	Incoming call (5 min)	Phone records
9:49 PM	Outgoing call (0 min)	Phone records
9:55 PM	Incoming call (1 min)	Phone records
Wednesday, August 12, 2020		
9:45 AM	Drove spouse to doctor's appt	NOK statement
10:00 AM	Arrived at doctor's office	NOK statement
11:00 AM	Left doctor's office	NOK statement
11:15 AM	crash	

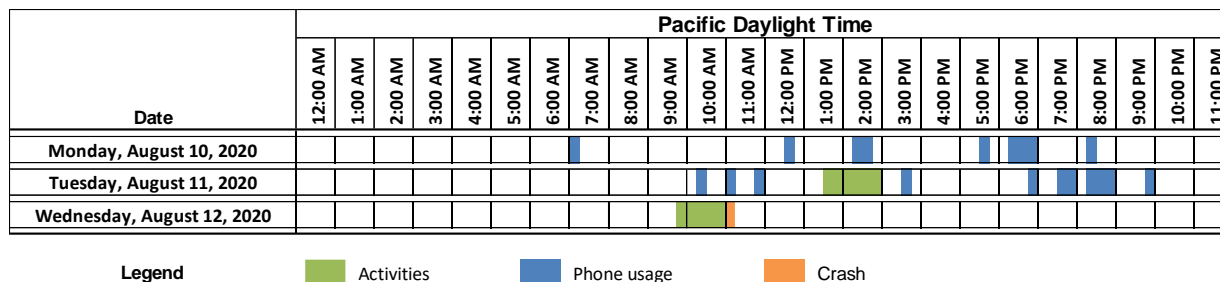


Figure 1. Graphical depiction of the Tesla driver’s activities in the days prior to the crash. Phone use is shown as a contiguous block if less than 30 minutes separated the time between outgoing texts or phone calls.

1.3. Health History

According to the daughter who was a physician, her father was a trained racecar driver but was forced to stop racing due to spinal stenosis. She further stated that two weeks prior to the crash, her father had an annual physical and the physician did not find any other health issues. Her father only took pravastatin and vitamin D3.⁸

1.4. Autopsy Findings

NTSB investigators reviewed the Tesla driver’s autopsy report from the Santa Clara County Medical Examiner-Coroner’s Office. The coroner’s office noted multiple injuries, such as a fracture of the nasal bone; fracture of the C6-7 cervical joint; multiple ribcage fractures; rupture of the pericardial sac and lacerations of the heart; thoracic vertebral fracture; lacerations of the liver; pelvis fractures; open comminuted fracture of the left femur; and fractures of the left ulna and right fibula. The coroner’s office reported the cause of death to be multiple injuries, with the manner of death as “accident.”

1.5. Post-Crash Toxicology

The Santa Clara County Medical Examiner-Coroner’s Office conducted a postmortem toxicological analysis on the Tesla driver’s blood and urine. The blood sample contained 0.51 ng/mL delta-9 tetrahydro-cannabinol (THC), the primary psychoactive substance in marijuana.

NTSB requested that the remaining toxicological samples from the Santa Clara County autopsy be shipped to the Federal Aviation Administration’s (FAA) Forensic Sciences Laboratory for independent analysis. The FAA detected 3.8 ng/mL of Carboxy-Delta-9-THC (THC-COOH), the metabolite of THC, in the blood sample. The metabolite of THC and diphenhydramine were also found in the urine sample.⁹

⁸ Pravastatin reduces the risk of heart attack and stroke. It also decreases the chance that heart surgery will be needed in people who have heart disease or who are at risk of developing heart disease.

⁹ Tesla driver toxicology results.

1.6. Weather

The closest official National Weather Service weather station to the crash site was located at Norman Mineta International Airport (KSJC) in San Jose, California, approximately 10 miles northeast of the crash site. Observations closest to the time of the crash are shown in Table 2.

Table 2. Weather data from weather station **KSJC**.

Time (EST)	10:53 a.m.
Temperature	76° F
Dew Point	58° F
Humidity	54%
Pressure	29.87 in
Wind Dir.	Varied
Wind Speed	3 mph
Wind Gust Speed	N/A
Precipitation	0
Events	None
Conditions	Clear

1.7. Illumination

According to the Earth System Research Laboratory/Global Monitoring Division of the National Oceanic and Atmospheric Administration, apparent sunrise in the immediate area of this crash occurred at 6:22 a.m., and apparent sunset occurred at 8:03 p.m. This crash occurred at 11:15 a.m.; therefore, this crash occurred during the daylight hours. At 11:15 on August 12, 2020, in the immediate area of the crash, the sun was recorded as being at an elevation of 55.45 degrees above the horizon and an azimuth of 122.92 degrees east of north.

E. DOCKET MATERIAL

The following attachments are included in the docket for this investigation:

LIST OF ATTACHMENTS

- Tesla driver driving history information
- Santa Clara County Sheriff's Office supplemental report #5
- Tesla driver ISO claims record
- Tesla driver cellular phone records
- Tesla driver toxicology report

END OF INFORMATION

Rafael Marshall

Human Performance Group Chairman